



D6.4 OPTIMAL SYSTEM GAMMA



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Abstract	This document details the experiments and methods undertaken to define an ideal non-linear adjustment value γ_{adj} needed for our tone mapping results to look optimal on a given display in a reference viewing environment. This is a preliminary step in the greater goal of creating personalization tools with which the output of other algorithms can be optimized for a user's viewing condition.
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1 EXECUTIVE SUMMARY

It is well known that viewing conditions and the display's capabilities in terms of contrast and luminance can significantly affect the perceived image quality. This happens mainly because the brightness perception of the HVS varies based on the viewing condition. The parameters of the first stage of the tone mapping operator presented by UPF in D2.4 are optimized for best perceptual appearance based on a psychophysical experiment conducted on an LCD display in an office environment. Therefore, the result is ideal to be viewed in that condition and may be sub-optimal in other viewing conditions. This document details the experiments and methods undertaken to define an ideal non-linear adjustment value γ_{adj} needed for our tone mapping results to look optimal on a given display in a reference viewing environment. This is a preliminary step in the greater goal of creating personalization tools with which the output of other algorithms can be optimized for a user's viewing condition.